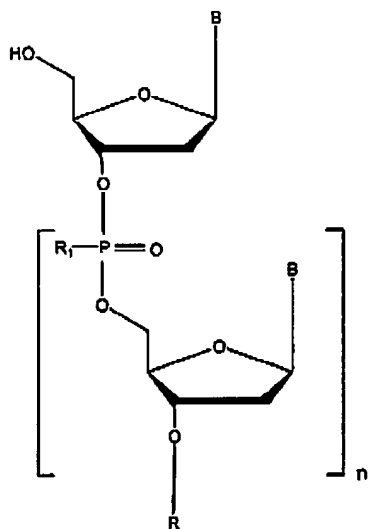


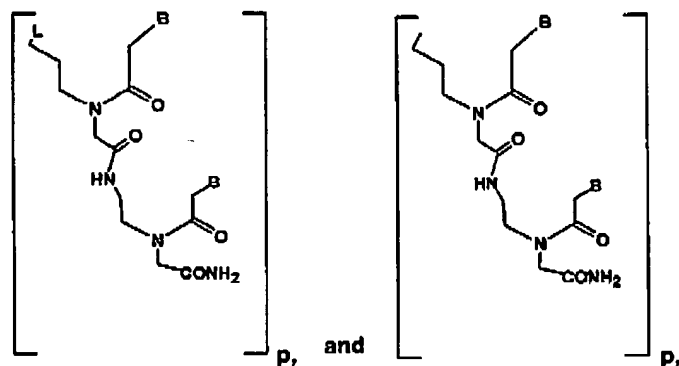
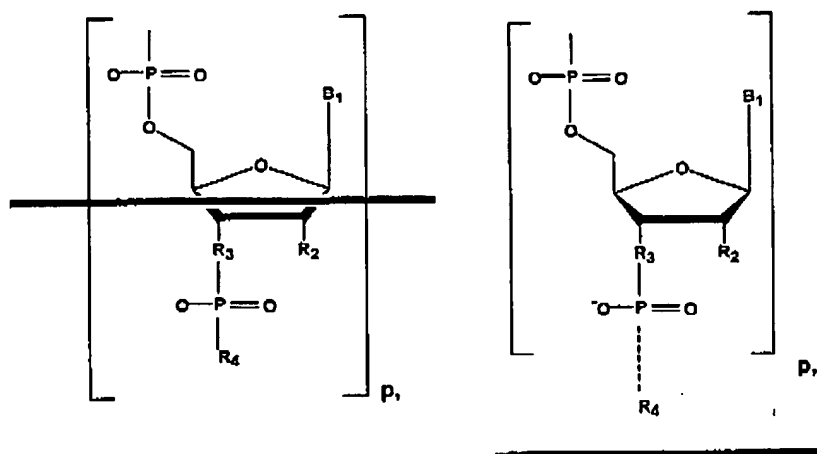
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) Chimeric oligonucleotides of the general formula I



wherein R is selected from the group consisting of



and wherein

n is at least 10 and not more than 20,

R_1 is selected from the group consisting of [=] S^+ , CH_3 , and O^+ ,

B is selected from the group consisting of [=] thymine, cytosine, adenine, and guanine,

p is at least 3 and not more than 17,

B_1 is selected from the group consisting of [=] thymine, cytosine, adenine, guanine, 5-propyluracil, and 5-propylcytosine,

R_2 is selected from the group consisting of [=] H, F, NH_2 , O-alkyl ($C_1 - C_5$), O-allyl, and O-methoxyethoxy,

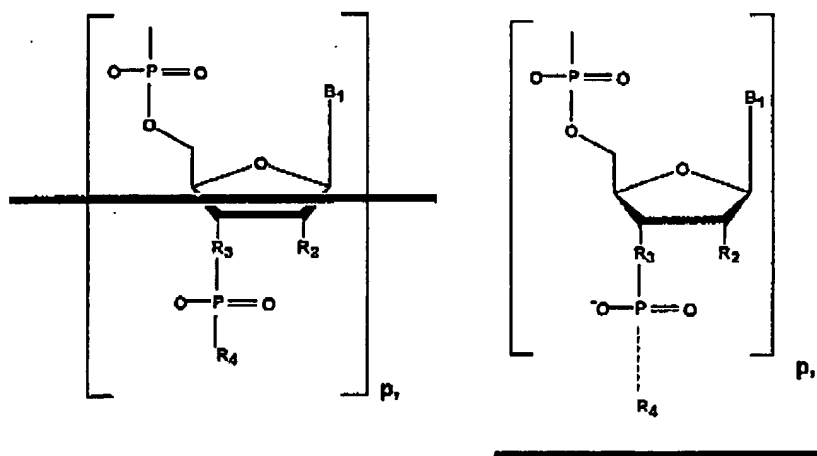
R_3 is selected from the group consisting of [=] ~~or~~ NH and O, wherein if R_3 is NH, R_2 must not be selected from the group consisting of NH_2 , O-alkyl ($C_1 - C_5$), O-allyl, and O-methoxyethoxy,

R_4 is selected from the group consisting of [=] 2',3'-dideoxy-3'-fluoroguanosine, 2',3'-dideoxy-3'-azidoguanosine, 2',3'-dideoxy-3'-aminoguanosine, 2',3'-_acyclovir, gancyclovir, 2'-deoxyadenosine, 2'-deoxyguanosine, 2'-deoxycytidine, and 2'-deoxythymidine,

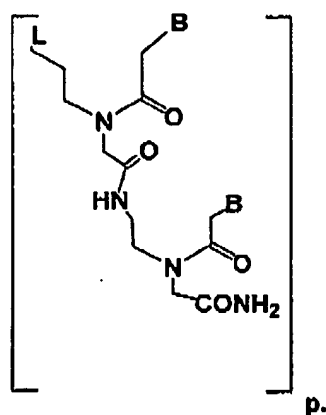
L is selected from the group consisting of [=] $-(PO_2)-OCH_2-COH-CH_2-NH-$ and $-(PO_2)-OCH_2-CH(CH_2COOH)-(CH_2)_4NH-$

and wherein each chimeric oligonucleotide inhibits telomerase activity.

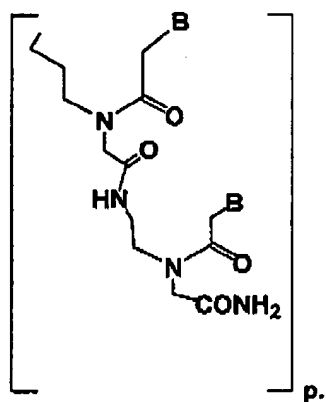
2. (Currently Amended) The oligonucleotides according to claim 1, wherein R is



3. (Withdrawn) The oligonucleotides according to claim 1, wherein R is



4. (Withdrawn) The oligonucleotides according to claim 1, wherein R is



5. (Original) The oligonucleotides according to claim 1, wherein R1 to R4 and B and B1 vary from a nucleotide unit to another nucleotide unit.

6. (Currently amended) The oligonucleotides according to claim 1, wherein the oligonucleotides having a nucleotide sequence is selected from the group consisting of
 5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTAG-3' (SEQ ID No. 1)
 5'-TCAGATTAGGACTGCTCAGAGTTAG-3' (SEQ ID No. 2)

5'-TCAGATTAGTACTCGTCAGACAGTTAGGGTTAG-3' (SEQ ID No. 3)
 5'-TCAGATTAGTACTCGTCAGAGTTAGAGTTAG-3' (SEQ ID No. 4)
 5'-TCAGATTAGGACTGCTCAGAGUUAG-3' (SEQ ID No. 5)
 5'-TCAGATTAGGACTGCTCAGAUAGUUAG-3' (SEQ ID No. 6)
 5'-TCAGATTAGGACTGCTCAGAGUUAGGGTTAGACAA-3' (SEQ ID No. 7)
 5'-TCAGATTAGGACTGCGTTAGGGTTAGACAA-3' (SEQ ID No. 8)
 5'-TCAGATTAGTACTCGTCAGA-O(PO₂)OCH₂CH(CH₂COOH-(CH₂)₄-NH-TAGGGTTAGACAA-3' (SEQ ID No. 9)
 5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTA-azidodeoxyguanosine-3' (SEQ ID No. 10)
 5'-AATCCTCCCCCAGTTCACCC- GTTAGGGT-3' (SEQ ID No. 11)
 5'-TCTCCCAGCGTGCGCCAT- GUUAGGGUUAG-3' (SEQ ID No. 12)
 5'-ATGTATGCTGTGGCT- n(L) -GTTAGG-3' (SEQ ID No. 13)
 5'- GTACTGCTCAGA-GTTAGGGTTAG-3' (SEQ ID No. 14)
 5'- GTACTGCTCAGA-GTTAGGGT-3' (SEQ ID No. 15)
 5'- GTACTGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 16)
 5'- GTACTGCTCAGA-n(L)-GTTAGG-3' (SEQ ID No. 17)
 5'-GGCCAGCAGCTG- GUUAGGGUUAG-3' (SEQ ID No. 18)
 5'- TGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 19)
 5'- TGCTCAGA-n(L)-GTTAGG-3' (SEQ ID No. 20)
 5'- TCAGACATATACTGCTCAGA-n(L)-TAGGGTTAGACAA-3' (SEQ ID No. 21)
 5'- ACT GCT CAG A-GTT AG-3' (SEQ ID No. 22)
 5'- ACT GCT CAG A-GUU AGG GUU AG-3' (SEQ ID No. 23)
 5'- ATA CTG CTC AGA-linker-GTT AGG GTT AG-3' (SEQ ID No. 24)
 5'- TTA GTA CTG CTC AGA-GTT AGG GTT AG-3' (SEQ ID No. 25)
 5'- TCA GAT TAG TAC TGC TCA GA-GTT AG-3' (SEQ ID No. 26)
 5'- TCA GAT TAG TAC TGC TCA GA-GTT AG-3' (SEQ ID No. 27) and
 5'-ACT GCT CAG A-GTT AGGGTTAG-3' (SEQ ID No. 28).

7. (Previously presented) A method of inhibiting telomerase activity, comprising the administering of chimeric oligonucleotides of claim 1 to a human tumor cell line.

8. (Currently amended) A method of inhibiting telomerase activity in tumor cells in a mammal non-human mammal, in vivo, comprising the administering of chimeric oligonucleotides of claim 1 in a flank region, wherein the oligonucleotides have a nucleotide sequence selected from the group consisting of:

5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTAG-3' (SEQ ID No. 1)

5'-TCAGATTAGGACTGCTCAGAGTTAG-3' (SEQ ID No. 2)

5'-TCAGATTAGTACTCGTCAGACAGTTAGGGTTAG-3' (SEQ ID No. 3)

5'-TCAGATTAGTACTCGTCAGAGTTAGAGTTAG-3' (SEQ ID No. 4)

5'-TCAGATTAGGACTGCTCAGAGUUAG-3' (SEQ ID No. 5)

5'-TCAGATTAGGACTGCTCAGAUAGUUAG-3' (SEQ ID No. 6)

5'-TCAGATTAGGACTGCTCAGAGUUAGGGTTAGACAA-3' (SEQ ID No. 7)

5'-TCAGATTAGGACTGCGTTAGGGTTAGACAA-3' (SEQ ID No. 8)

5'-TCAGATTAGTACTCGTCAGA-O(PO₂)OCH₂CH(CH₂COOH-(CH₂)₄-NH-TAGGGTTAGACAA-3' (SEQ ID No. 9)

5'-TCAGATTAGTACTCGTCAGAGTTAGGGTTA-azidodeoxyguanosine-3' (SEQ ID No. 10)

5'-AATCCTCCCCCAGTTCACCC- GTTAGGGT-3' (SEQ ID No. 11)

5'-TCTCCCAGCGTGCGCCAT- GUUAGGGUUAG-3' (SEQ ID No. 12)

5'-ATGTATGCTGTGGCT- n(L) -GTTAGG-3' (SEQ ID No. 13)

5'- GTACTGCTCAGA-GTTAGGGTTAG-3' (SEQ ID No. 14)

5'- GTACTGCTCAGA-GTTAGGGT-3' (SEQ ID No. 15)

5'- GTACTGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 16)

5'- GTACTGCTCAGA-n(L)-GTTAGG-3' (SEQ ID No. 17)

5'-GGCCAGCAGCTG- GUUAGGGUUAG-3' (SEQ ID No. 18)

5'- TGCTCAGA-GUUAGGGUUAG-3' (SEQ ID No. 19)

5'- TGCTCAGA-n(L)-GTTAGG-3' (SEQ ID No. 20)

5'- TCAGACATATACTGCTCAGA-n(L)-TAGGGTTAGACAA-3' (SEQ ID No. 21)

5'- ACT GCT CAG A-GTT AG-3' (SEQ ID No. 22)

5'- ACT GCT CAG A-GUU AGG GUU AG-3' (SEQ ID No. 23)

5'- ATA CTG CTC AGA-linker-GTT AGG GTT AG-3' (SEQ ID No. 24)

5'- TTA GTA CTG CTC AGA-GTT AGG GTT AG-3' (SEQ ID No. 25)

5'- TCA GAT TAG TAC TGC TCA GA-GTT AG-3' (SEQ ID No. 26)

5'- TCA GAT TAG TAC TGC TCA GA-GTT AG-3' (SEQ ID No. 27) and

5'-ACT GCT CAG A-GTT AGGGTTAG-3' (SEQ ID No. 28).

9. (Previously presented) The oligonucleotides of claim 1, wherein said oligonucleotide binds to telomerase thereby inhibiting telomerase catalytic activity.

10. (Previously presented) The oligonucleotides of claim 9 wherein said binding to telomerase occurs either inside a eukaryotic cell or in the absence of intact eukaryotic cells.

11. (Previously presented) The oligonucleotides of claim 10, wherein said binding to telomerase occurs inside a tumor cell.

12. (Previously presented) The method of claim 8, wherein the administering is by an intravenous route.

13. (Cancelled)

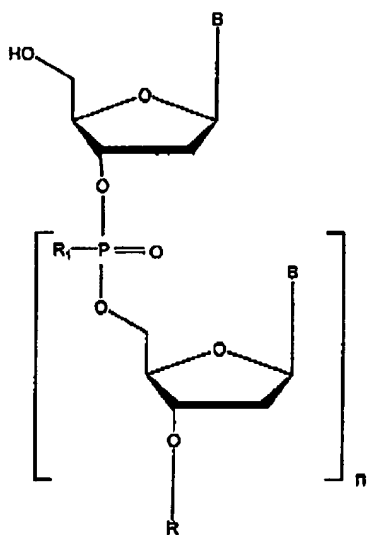
14. (Previously presented) The method of claim 13, wherein the tumor cells are mammalian tumor cells.

15. (Previously presented) The method of claim 13, wherein the tumor cells are human tumor cells.

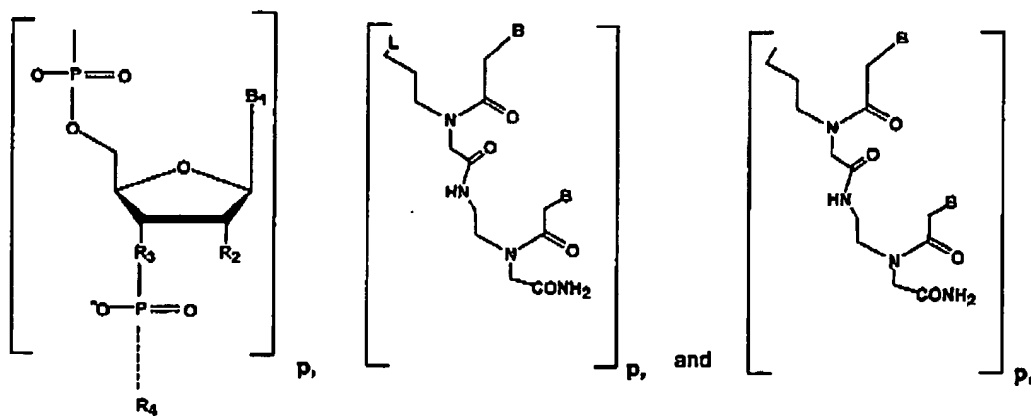
16. (Previously presented) The method of claim 7, wherein the oligonucleotide has the structure described in SEQ ID NO: 1-28.

17. (Previously presented) The oligonucleotide of claim 9 wherein the bind to telomerase comprises to the telomerase RNA component.

18. (New) A method of inhibiting telomerase activity *in vitro* comprising the administering of chimeric oligonucleotides having the general formula I:



wherein R is selected from the group consisting of



and wherein

n is at least 10 and not more than 20,

R₁ is selected from the group consisting of S⁻, CH₃, and O⁻,

B is selected from the group consisting of thymine, cytosine, adenine, and guanine,

p is at least 3 and not more than 17,

B₁ is selected from the group consisting of thymine, cytosine, adenine, guanine, 5-propyluracil, and 5-propylcytosine,

R₂ is selected from the group consisting of H, F, NH₂, O-alkyl (C₁ – C₅), O-allyl, and O-methoxyethoxy,

R₃ is selected from the group consisting of NH and O, wherein if R₃ is NH, R₂ must not be selected from the group consisting of NH₂, O-alkyl (C₁ – C₅), O-allyl, and O-methoxyethoxy,

R₄ is selected from the group consisting of 2',3'-dideoxy-3'-fluoroguanosine, 2',3'-dideoxy-3'-azidoguanosine, 2',3'-dideoxy-3'-aminoguanosine, 2',3'-acyclovir, gancyclovir, 2'-deoxyadenosine, 2'-deoxyguanosine, 2'-deoxycytidine, and 2'-deoxythymidine,

L is selected from the group consisting of $-(\text{PO}_2)-\text{OCH}_2-\text{COH}-\text{CH}_2-\text{NH}-$ and $-(\text{PO}_2)-\text{OCH}_2-\text{CH}(\text{CH}_2\text{COOH})-(\text{CH}_2)_4\text{NH}-$

and wherein each chimeric oligonucleotide inhibits telomerase activity.